CLAIMS

What is claimed is:

1. A communication method for use in a communication system including a first communication device in communication with a second communication device over a packet network, said method comprising the steps of:

receiving a first compressed data from said second communication device by said first communication device over said packet network, wherein said first compressed data is compressed according to a first protocol;

decompressing said first compressed data, by said first communication device, according to said first protocol to generate a first decompressed data;

compressing said first decompressed data to generate a second compressed data, wherein said second compressed data is compressed by said first communication device according to a second protocol;

transmitting said second compressed data to a third communication device in communication with said first communication device;

receiving a third compressed data from said third communication device by said first communication device, wherein said third compressed data is compressed according to said second protocol; and

transmitting said third compressed data to said second communication device by said first communication device.

2. The method of claim 1, wherein said first protocol is the same as said second protocol.

3. The method of claim 2, wherein said first protocol has a plurality of first parameters and said second protocol has a plurality of second parameters, and wherein at least one parameter of said plurality of first parameters is different than a corresponding parameter of said plurality of second parameters.

4. The method of claim 3, wherein said at least one parameter is a dictionary size.

5. The method of claim 1, wherein said first protocol is different than said second protocol.

6. The method of claim 5, wherein said first protocol is V.44 and said second protocol is V.42bis.

7. A communication method for use in a communication system including a first modem, a second modem and a third modem, said method comprising the steps of:

receiving a call from said first modem by said second modem over a telephone line;

contacting said third modem by said second modem over a packet network;

receiving information, from said third modem by said second modem, relating to one or more data compression protocols supported by said third modem;

handshaking by said second modem with said first modem to establish a connection; and

negotiating a first data compression protocol by said second modem with said first modem, wherein said first data compression protocol is according to said information relating to one of said one or more data compression protocols.

8. The method of claim 7 further comprising the steps of:

receiving a first compressed data from said first modem by said second modem, wherein said first compressed data is compressed according to said first data compression protocol; and

transmitting said first compressed data to said third modem by said second modem.

9. The method of claim 8 further comprising the steps of:

receiving a second compressed data from said third modem by said second modem, wherein said second compressed data is compressed according to a second data compression protocol;

decompressing said second compressed data, by said second modem, according to said second data compression protocol to generate a second decompressed data; and

compressing said second decompressed data to generate a third compressed data, wherein said third compressed data is compressed by said second modem according to said first protocol; and

transmitting said third compressed data to said first modem by said second modem.

10. The method of claim 7 further comprising the steps of:

receiving a second compressed data from said third modem by said second modem, wherein said second compressed data is compressed according to a second data compression protocol;

decompressing said second compressed data, by said second modem, according to said second data compression protocol to generate a second decompressed data; and

compressing said second decompressed data to generate a third compressed data, wherein said third compressed data is compressed by said second modem according to said first protocol; and

transmitting said third compressed data to said first modem by said second modem.

11. The method of claim 7, wherein said information relating to said one or more data compression protocols includes information relating to at least one parameter of at least one of said one or more data compression protocols.

12. The method of claim 11, wherein said at least one parameter is a dictionary size.

13. The method of claim 7 further comprising the steps of:

determining that said first data compression protocol, including its parameters, is the same as a second data compression protocol, including its parameters, negotiated between said third modem and a fourth modem;

receiving a first compressed data from said third modem by said second modem, wherein said first compressed data is compressed according to said first data compression protocol; and

transmitting said first compressed data to said first modem by said second modem.

14. A communication device comprising:

a receiver capable of receiving a first compressed data from a first device over a packet network, wherein said first compressed data is compressed according to a first protocol;

a decompressing module capable of decompressing said first compressed data according to said first protocol to generate a first decompressed data;

a compressing module capable of compressing said first decompressed data according to a second protocol to generate a second compressed data; and

a transmitter capable of transmitting said second compressed data to a second device over a communication line;

wherein a third compressed data from said second device is passed through to said first device, and wherein said third compressed data is compressed according to said second protocol.

15. The device of claim 14, wherein said first protocol is the same as said second protocol.

16. The device of claim 15, wherein said first protocol has a plurality of first parameters and said second protocol has a plurality of second parameters, and wherein at least one parameter of said plurality of first parameters is different than a corresponding parameter of said plurality of second parameters.

17. The device of claim 16, wherein said at least one parameter is a dictionary size.

18. The device of claim 14, wherein said first protocol is different than said second protocol.

19. The device of claim 18, wherein said first protocol is V.44 and said second protocol is V.42bis.

20. The device of claim 14, wherein said second device is a gateway modem, and wherein said gateway modem is in communication with a client modem over a telephone line.

21. The device of claim 20, wherein said device is a server.

22. The device of claim 14, wherein said device is a gateway modem and said second device is a client modem.

23. A modem comprising:

a receiver capable of receiving a call from a first modem over a telephone line;

a processing module capable of contacting a second modem over a packet network in response to said call, and capable of receiving information from said second modem relating to one or more data compression protocols supported by said second modem;

a handshaking module capable of establishing a connection with said first modem; and

a data compression module capable of negotiating a first data compression protocol with said first modem;

wherein said first data compression protocol is according to said information relating to one of said one or more data compression protocols.

24. The modem of claim 23, wherein said modem is capable of receiving a first compressed data from said first modem, said first compressed data being compressed according to said first data compression protocol, and wherein said modem is capable of transmitting said first compressed data to said second modem.

25. The modem of claim 24, wherein said modem is capable of receiving a second compressed data from said second modem, said second compressed data being compressed according to a second data compression protocol, wherein said modem is capable of decompressing said second compressed data according to said second data compression protocol to generate a second decompressed data, wherein said modem is capable of compressing said second decompressed data to generate a third compressed data, said third compressed data being compressed according to said first protocol, and wherein said modem is capable of transmitting said third compressed data to said first modem.

26. The modem of claim 23, wherein said modem is capable of receiving a second compressed data from said second modem, said second compressed data being compressed according to a second data compression protocol, wherein said modem is capable of decompressing said second compressed data according to said second data compression protocol to generate a second decompressed data, wherein said modem is capable of compressing said second decompressed data to generate a third compressed data, said third compressed data being compressed according to said first protocol, and wherein said modem is capable of transmitting said third compressed data to said first modem.

27. The modem of claim 23, wherein said information relating to said one or more data compression protocols includes information relating to at least one parameter of at least one of said one or more data compression protocols.

28. The modem of claim 27, wherein said at least one parameter is a dictionary size.

29. The modem of claim 23, wherein said modem is capable of determining that said first data compression protocol, including its parameters, is the same as a second data compression protocol, including its parameters, negotiated between said second modem and a third modem, wherein said modem is capable of receiving a first compressed data from said second modem, said first compressed data being compressed according to said first data compression protocol, and wherein said modem is capable of transmitting said first compressed data to said first modem.

30. A communication method for use in a communication system including a first modem, a second modem and a third modem, said method comprising the steps of:

receiving a call from said first modem by said second modem over a telephone line;

contacting said third modem by said second modem over a packet network, wherein said third modem is in communication with a device;

receiving information, from said device by said second modem, relating to one or more data compression protocols supported by said device;

handshaking by said second modem with said first modem to establish a connection; and

negotiating a first data compression protocol by said second modem with said first modem, wherein said first data compression protocol is according to said information relating to one of said one or more data compression protocols.

31. The method of claim 30, wherein said device is a server device.

32. The method of claim 30 further comprising the steps of:

receiving a first compressed data from said first modem by said second modem, wherein said first compressed data is compressed according to said first data compression protocol; and

transmitting said first compressed data by said second modem.

33. The method of claim 32 further comprising the steps of:

receiving a second compressed data from said device by said second modem, wherein said second compressed data is compressed according to a second data compression protocol;

decompressing said second compressed data, by said second modem, according to said second data compression protocol to generate a second decompressed data; and

compressing said second decompressed data to generate a third compressed data, wherein said third compressed data is compressed by said second modem according to said first protocol; and

transmitting said third compressed data to said first modem by said second modem.

34. The method of claim 30 further comprising the steps of:

receiving a second compressed data from said device by said second modem, wherein said second compressed data is compressed according to a second data compression protocol;

decompressing said second compressed data, by said second modem, according to said second data compression protocol to generate a second decompressed data; and

compressing said second decompressed data to generate a third compressed data, wherein said third compressed data is compressed by said second modem according to said first protocol; and

transmitting said third compressed data to said first modem by said second modem.

35. The method of claim 30, wherein said information relating to said one or more data compression protocols includes information relating to at least one parameter of at least one of said one or more data compression protocols.

36. The method of claim 35, wherein said at least one parameter is a dictionary size.

37. The method of claim 30 further comprising the steps of:

determining that said first data compression protocol, including its parameters, is the same as a second data compression protocol, including its parameters, negotiated between said device and a fourth modem;

receiving a first compressed data from said device by said second modem, wherein said first compressed data is compressed according to said first data compression protocol; and

transmitting said first compressed data to said first modem by said second modem.